

Introduction

In the summer of 1992, news of mass ethnic violence by Serbs in Bosnia became known around the globe. Despite growing domestic concerns and pressure for greater American involvement (Carey 2001), president Bush was reluctant to intervene or initiate substantial policy steps other than supporting the existing UN weapons' embargo. Not long after taking office in 1993, as the conflict in the Balkans persists, president Clinton contemplated multiple policy options, and gradually increased American involvement by promoting multilateral efforts of diplomacy, as well as active actions to enforce the no-fly zone and limited airstrikes (Auerbach and Bloch-Elkon 2005).

How, despite facing the same conflict, Bush and Clinton made such distinct choices? One potential explanation is their different time horizons. With the upcoming 1992 elections, Bush faced shorter time horizons as he focused on the near future and refused to entertain alternatives that would risk his re-election campaign. Clinton, on the other hand, after securing his electoral victory, could adopt a long-term orientation which allowed him to engage in a more expanded assessment of policy options. Time horizons, thus, were critical in shaping the list of policies that decision-makers evaluate in conflict situations.

Facing a decision task, individuals rarely assess a long list of alternatives. Instead, we tend to focus the evaluation and subsequent selection of alternatives on a reduced 'short-list', *a choice-set*, that consists of our favored options. Therefore, facing a conflict situation, actors form a choice-set of their preferred policy options, evaluate them more seriously and select one alternative.

In this study, I explore the role that time horizons play in this decision process. For political actors, time horizons reflect the inherent trade-off between current and future implications of a policy (Rapport 2015). I argue that a decision process involves two phases. A decision-maker's time horizons are most critical in the initial phase when she forms her choice-set since only policy options that fit with her time horizons enter the choice-set, are evaluated in more detail and have the chance to be selected in the subsequent selection phase.

To highlight the role of time horizons, I unpack the decision-making process and focus on the initial phase, when the 'short list' of policy options is formed. Then, I assess the subsequent

phase of policy selection, demonstrating that the final choice is determined in part during the earlier choice-set phase. Thus, the main premise of this research is that actors' time horizons in conflict play a significant role in shaping the choice-set of policy options, and by extension, the selection of an alternative to address the conflict.

To explain the role of time horizons in choice-set formation, I borrow from Image theory (Beach 1990) the concept of *prechoice screening* - decision-makers 'screen' alternatives that violate their standard for the relevant task, thus creating a smaller choice-set of preferred options. Therefore, I highlight time horizons as the screening mechanism for conflict policies. Only options that are compatible with actors' time horizons enter the restricted 'short list' and are examined in detail.

Since time horizons vary, an actor facing shorter time horizon forms a choice-set consisting of policy options that provide immediate outcomes. Alternatively, an actor with a long time horizon prefers long-term options. Yet, such an actor also recognizes the role of future uncertainty and potential for changes over time. Therefore, a long-term oriented actor entertains more alternatives. The end result is that variations in time horizons generate different choice-sets in terms of their size and composition. In the subsequent phase, decision-makers conduct an in-depth evaluation of the 'surviving' options, and select the one which offers the highest net benefits.

To evaluate this framework, I design a two-phase experiment which describes an explicit conflict scenario and asks participants to consider multiple policies to address the situation. The central treatment manipulates time horizons as either short- or long-term. To assess the role of time horizons, respondents complete two decision tasks. First, they screen policy options into a 'short-list' of their favorite alternatives. Then, they select a preferred option from the restricted choice-set.

The results indicate that time horizons shape the size and composition of choice-sets. I find that long-term oriented actors have larger choice-sets compared to short-term oriented actors. Thus, decision-makers with a long time horizon set lower threshold for accepting policies into their 'short list'. For the subsequent selection phase, I find that time horizons have an indirect effect. Overall, actors favor the policy with the highest chances of success. Yet, they accept a

less successful alternative if it also offers positive outcomes in the *reciprocal* time frame (e.g. positive outcomes over time). Thus, actors prefer policies that offer positive results in both time frames, even if these options have (relatively) lower chances of success in their dominant time frame. Lastly, using a separate analysis of an embedded experiment, I demonstrate that the size and composition of the choice-set influence policy selection. Modifying these elements results in a ‘contextual preference reversal’ of policy options and affects the final choice.

The study offers several important contributions. First, I add to recent work identifying time horizons as a primary explanatory variable in conflict (Edelstein 2017; Haynes 2019; Rapport 2013). My analysis focuses on the decision-making process and demonstrates that time horizons serve as a screening mechanism by rejecting policy options that fail to accommodate the decision-maker’s temporal view, thus shaping the actual policy selection. Second, studies of decision-making employ a multi-phase process framework to better explain how underlying factors influence choices (Beach 1990; Kahneman and Tversky 1979; Mintz and Geva 1997). I conceptualize a two-phase decision process in which time horizons directly affect the initial phase of choice-set formation. Then, I show that the subsequent policy selection phase is contingent upon the choice-set composition. As a result, the dual-phase framework helps clarifying the effect of an underlying factor (time horizons) on the eventual outcome (policy choice). Lastly, I demonstrate how time horizons affect choice-set formation. Highlighting this earlier phase helps us understand which policy options are more likely to be (seriously) evaluated and which are never really ‘on the table’.

In the next section, I review the literature on time horizons in the context of conflict and foreign policy. Then, I integrate insights from IR and decision science to develop a framework that explains how time horizons shape actors’ choice-sets and policy selection. The fourth section describes the experimental design, followed by a detailed discussion of the empirical results. The final section concludes and offers avenues for future research.

Time Horizons in International Politics

The concept of time horizons describes the weights that actors ascribe to present versus future outcomes and how much they are willing to sacrifice present utility for future gain (Krebs and

Rapport 2012, 530-31). For political actors, it is the inherent trade-off between current versus future implications of a policy.¹

Time horizons are integral to many political decisions. However, in most research on foreign policy, their effects are implicit and they are rarely used as the primary factor to explain behavior. For instance, time horizons were an important underlying factor in the choice of the French and British governments to adopt the ‘Appeasement policy’ that contributed to the rise of Nazi Germany (Ripsman and Levy 2008, 2007).

In the reputation literature, time horizons are also an implicit factor. Authors assume that actors wishing to generate long-term benefits are willing to withstand short-term costs by conceding a current conflict for future reputation (Sartori 2005), or engaging in a costly conflict in order to build reputation for deterrence (Walter 2006, 318-321). The trade-off in temporal implications is also evident in the experimental work of Huff and Schub (2018). They argue that leaders must choose whether to take advantage of the short-term rally effects from war statements versus the potential costs of losing public support when some statements fail to materialize during a conflict (i.e. over the long-run).

In most IR literature, time horizons are studied within strategic interaction models. The central argument is that sustaining long time horizons increase the likelihood of cooperation (Axelrod 1984; Keohane 1984; Oye 1986). Criticizing this logic, Fearon (1998, 281-83) argues that while long time horizons facilitate cooperation, they encourage strict bargaining behavior which complicates formulating such agreements.² Using an experimental design, Tingley (2011) supports this point showing that long-term views increase the likelihood of conflict due to changes in the bargaining strength over time (see also Streich and Levy (2007)).

Within conflict studies, Toft (2006) proposes time horizons as an additional ‘rationalist’ explanation for war (Fearon 1995). She contends that some ideologies can create asymmetric time horizons among adversaries and increase the probability of war. Shifting the focus to short time horizons, Beardsley (2008, 724-29) explains how immediate concerns affect the adoption

¹ Some view time horizons as the length of time to make a choice, or how it reflects political and social processes (Cohen 2018; Pierson 2011). I follow a more direct approach which views this concept as related to both discounting behavior (dominant in economics, see Frederick, Loewenstein and O’Donoghue (2002)), and as an ‘integral’ part of people’s mind-sets (prevalent in psychology, see Zimbardo and Boyd (1999))

² For an experimental analysis of this argument, see Hundley (2020). For an empirical assessment, see Bearce, Eldredge and Jolliff (2015); Simonelli (2011).

of a mediation strategy between rivals.

Studying great power relations, [Edelstein \(2017\)](#) views time horizons as the central mechanism that explains power transitions and the potential for conflict or cooperation. He shows how short time horizons increase the likelihood of short-term cooperation, but long-term conflict, between rising and declining powers. [Haynes \(2019\)](#) extends these insights by exploring how variations in time horizons impact the credibility of signaling when considering the uncertainty actors face regarding their adversaries' time horizons. His model suggests that this dynamic reduces the likelihood of cooperation in the short-term.

Despite the increase in studies on time horizons in conflict, more work is needed to explain how actors' temporal orientations lead to certain decisions. In other words, studies show the effects of time horizons but rarely explore in-depth the process leading actors to select different strategies, and how time horizons shape these decisions.

In this study, I address this gap by focusing on the process of conflict decision-making, arguing that the effect of time horizons is *indirect* as it shapes the 'menu of options' ([Oakes 2012](#), 13-15) from which a conflict strategy is chosen. I integrate insights from psychology and decision sciences to unpack the decision-making process and explain how actors select certain strategies. This approach adds to recent work that integrates psychological approaches into the more dominant rational theories of foreign policy decision-making ([Kertzer and Tingley 2018](#)).

Unpacking the Decision-Making Process

One of the important contributions of this study is the focus on the decision-making process. There are several benefits to investigating the process and its various phases. First, an in-depth study of the process allows us to identify the 'exact spot' when time horizons are most influential, and how they shape the subsequent phase of policy choice. Second, since time horizons is a latent concept ([Bollen 2002](#)) and difficult to observe, a phase-based analysis can explicate its role other than just arguing that it is important for the final outcome. Third, this framework can be translated to an experiment that empirically evaluates the different propositions, and is a better method to assess causal mechanisms within individual decision-making processes ([Morton and Williams 2010](#)).

It is important to be clear and recognize that my theory captures only one causal mechanism that explains the decision process. Other factors are also likely to play a role in shaping the choice, and elements within the process as the screening of alternatives.³ These might include decision-makers' emotional state or level of expertise (Spence and Brucks 1997). More general explanations include how issues are constructed as security threats (Balzacq, Léonard and Ruzicka 2016) or fit within national security narratives (Krebs 2015). The formulation of public policy also offers potential frameworks, for example the 'three streams' model (Kingdon and Stano 1984). However, while these explanations have been studied elsewhere, my examination of time-horizons sheds light on an understudied but crucial aspect in this decision process. In particular, I detail a multi-phase process on why and how a certain 'supply of policies' is considered. I introduce decision-makers' time horizons as a causal mechanism that shapes both the size and composition of the choice-set of preferred alternatives which thereby influence the final choice.

Time Horizons and Conflict Decision-Making

In order to better understand the selection of conflict policies, my analysis starts at an earlier phase of the process - the screening of alternatives that creates a reduced 'short list' of preferred options.

There are several reasons justifying an in-depth investigation of this phase. First, while classic decision models (e.g. rational choice) posit that individuals assess multiple options prior to selection, in reality, we rarely assess a long list of options. Instead, we focus on a 'short list' of preferred alternatives. By studying the screening phase, we can better understand how actors arrive at selecting a certain policy out of a larger 'supply' of options. Second, the early phase of screening serve as the foundation for the eventual selection of an alternative. The analysis can benefit from a rigorous theoretical assessment that explores how the preliminary phase sets-up the choice, and by extension, final outcome.⁴ Third, from a practical perspective, studying the screening phase of conflict choices helps us understand why, under certain conditions, some

³ While I view time horizons as critical for any decision task (finances, health, etc.), it is particularly salient in political choices when outcomes have broader implications (both domestic and international).

⁴ Levy (1992, 180) called for additional theorizing on the early, *editing* phase of prospect theory rather than the more appealing *evaluation* phase.

alternatives are never really ‘on the table’.

Image theory (Beach 1990) is a behavioral framework that explains individual decision-making by viewing choices as a result of the assessment of options to improve the future with minimum violations of a decision-maker’s morals, values and beliefs. The decision process consists of two phases: pre-choice screening of alternatives, followed by selecting an alternative from the reduced set. In the pre-choice screening phase, individuals narrow the pool of options by rejecting alternatives that do not pass the *compatibility test* (Ordóñez, Benson III and Beach 1999, 65) - alternatives that fail to meet a standard set by the decision-maker are rejected and do not enter the reduced set. In a series of studies, Beach (1993) demonstrates how pre-choice screening operates in various decision tasks. One important finding is that information used for screening does not influence the actual choice, suggesting that "subjects apparently regard screening and choice as distinctly different tasks" (p. 213). The main purpose behind screening is to reduce the mental overload when making decisions to prevent suboptimal choices (Payne, Bettman and Johnson 1993).

I adopt the logic of pre-choice screening to explain policy selection in conflict. Using both rational and psychological perspectives, I develop an argument stating that actors’ time horizons serve as the screening mechanism. Therefore, facing a conflict situation, individuals narrow the ‘pool of options’ based on their compatibility with the decision-makers’ time horizons. Many studies in IR argue that time horizons affect conflict behavior. I employ time horizons as the mechanism that shapes the construction of the reduced choice-set, thus providing a clearer account of how time horizons influence behavior.

In every conflict scenario, actors have both short- and long-term objectives. However, in most cases, they prioritize one temporal dimension over the other.⁵ An actor that emphasizes the immediate (short-term) outcomes is likely to consider mostly options that offer such outcomes. Similarly, a decision-maker who is long-term oriented, views policy options that offer positive outcomes in the future as more appealing. Therefore, an actor’s time horizons shapes the contents of her ‘short list’ of options by rejecting alternatives that fail to provide desirable

⁵ The question of what explains variations in time horizons is another under-explored aspect of this literature (Edelstein 2017, 27-28). In other research, I address this question using experimental and observational data, and show the effects of conflict conditions.

outcomes in the relevant time frame. This dynamic materializes at an early stage in the process - facing a conflict, actors are presented with an initial list of potential options.⁶ Since they are incapable (and in most cases, unwilling) to contemplate a long list of alternatives, they narrow it to a more manageable choice-set. Policies in this 'short list' go through a more in-depth evaluation and eventually, one option is selected.

Based on this theoretical argument, there are two observable implications for the pre-choice screening phase. First, the size of the choice-set will be different based on actors' time horizons. Second, the composition, in terms of which options are included, will vary dependent upon these time horizons.

Starting with the choice-set size, I posit that under long-term orientation, actors have lower acceptance threshold for their choice-set and they contemplate more options to address a conflict. This lower threshold stems from a combination of two factors - the focus on long-term implications, and the role of future uncertainty. Actors with a long time horizon place greater value on future outcomes, suggesting they are willing to accept present costs in order to increase the odds of achieving these outcomes. Long-term oriented actors also understand that uncertainty plays a more dominant role in shaping future outcomes. As a result, they are willing to contemplate more options to address the current situation. This dynamic is prevalent in bargaining scenarios. Authors posit that actors with long time horizons want to ensure the best long-term outcomes. Therefore, they prolong the process of bargaining (Bearce, Eldredge and Jolliff 2015; Fearon 1998; Hundley 2020). In other words, actors with long time horizons attempt to identify an action that ensures the best future outcome and thus, are willing to entertain multiple alternatives to improve the chances of finding such an option.

Information also plays an important role. By obtaining more information, actors reduce the degree of uncertainty and improve their odds of achieving the best long-term outcome (Fearon 1998). Edelstein (2017, 18-22) posits that actors with long time horizons accept a short-term strategy such as cooperation, since it provides more information and allows a declining power to ascertain the future intentions of its rival, the rising power (i.e. reducing the extent of uncertainty). In other words, facing a security threat, long-term oriented actors evaluate more

⁶ This initial list is compiled based on the actor's own experience and recommendations by political and professional advisors. Studying the origins of the initial list is beyond the scope of this study.

‘paths of action’. These additional options can provide immediate benefits and help reduce future uncertainty.

Psychological theories also offer supporting arguments. *Construal Level Theory* (Liberman and Trope 1998; Trope and Liberman 2000) posit that individuals with a long-term view perceive future outcomes in an abstract way. They care more about achieving a certain outcome (desirability), than how to obtain it (feasibility). In other words, long-term oriented decision-makers formulate an abstract, future objective and are less concerned about the details of accomplishing it (Krebs and Rapport 2012; Rapport 2015). With a focus on long-term implications, these individuals adopt a broader view of the situation, are less likely to place constraints on their evaluations, and more likely to exert creative thinking in addressing the task (Förster, Friedman and Liberman 2004; Liberman and Trope 2008). This ‘selected’ removal of constraints allows these individuals to assess more alternatives when making a choice (Liberman and Trope 1998). Therefore, in conflict situations, actors with long time horizons strive to accomplish a future objective (which can be abstract) and are willing to evaluate multiple ‘paths’ to attain this goal (i.e. assess more options).

Finally, long-term oriented actors are less sensitive to high future uncertainty (Trope and Liberman 2000). Thus, they are less likely to view uncertainty as necessarily bad. In other words, these actors accept the possibility that future outcomes may turn out to be positive.⁷ As a result, actors with long time horizons do not restrict their response to a single strategy, i.e. they accept more policy options into their choice-set.

The primary proposition that I derive of this discussion is that the the size of the choice-set depends on the decision-maker’s time horizon.

H₁: Actors with long time horizons accept more options into their reduced set, compared to actors with short time horizons.

The composition of the choice set is a second, related, aspect of the effects of time horizons as a screening mechanism.

⁷ Edelstein (2017, 20-21) discusses how great powers assess their future relations and suggests that they do not necessarily view future intentions as negative. Instead, intentions may be ‘benign’ and encourage future cooperation.

Past work in IR demonstrate that most conflict issues are salient to the public and political leaders (Heffington, Park and Williams 2019). In addition, short-term oriented politicians pursue actions that minimize the risks for their political survival (Chiozza and Goemans 2003). Therefore, when addressing conflicts, actors evaluate only alternatives that present immediate solutions to these threats. For example, facing the costs of conflict, actors with a short time horizon are more likely to accept a mediation strategy (Beardsley 2008) as it provides immediate benefits (cessation of violence). In recent work, Payne (2019/20) demonstrates that short-term oriented politicians who face electoral pressures limit debates about policies that pose significant political risk. His ‘dampening effect’ reflects an elimination (or screening) of options, in which policies that fail to provide immediate benefits are ignored and do not garner serious assessment.

On the other hand, actors who emphasize long-term objectives accept a diverse set of options, even if some involve short-term costs. Toft (2006, 59-61) argues that for actors whose primary objective is the long-term survival of a nation or a religious belief, ‘suffering’ short-term sacrifices in exchange for securing these goals is acceptable (and rational).⁸

Thus, actors who are short-term oriented emphasize immediate outcomes and devote less attention to long-term implications. On the other hand, those with a long time horizon focus on future implications of a policy and are willing to accept immediate costs as long as future outcomes are positive. Therefore, the latter are more likely to accept and contemplate policy options that provide future positive implications, even if these alternatives also involve immediate costs. The second proposition addresses time horizons and the contents of the choice-set:

H_{2a}: Actors with short time horizons are less likely to accept policy options that do not provide positive immediate outcomes.

H_{2b}: Actors with long time horizons are more likely to accept policy options with negative short-term outcomes, compared to actors with short time horizons.

Policy Selection

A central premise of this study is that a significant part of the decision process is contingent upon the early phase of choice-set formation. Nevertheless, in the vast majority of conflicts,

⁸ She also argues that a long-term view allows to ‘spread’ costs over longer period of time, making it easier to accept the costs associated with long-term objectives.

we only observe the selected policy. In this section, I discuss how actors make their (observed) selection of policy and how it depends on the screening phase.

While decision strategies tend to vary among individuals, the selection of an alternative is based on its perceived net benefits. In the context of security conflicts, actors' time horizons generate choice-sets which consist of policies that provide benefits in the same time frame. Then, decision-makers seek the 'best' option out of the surviving policies, and select the one that offers the highest potential net benefit.

What factors affect this net benefit calculus? In the conflict literature, studies demonstrated that individuals value the projected success of policy options (Gelpi, Feaver and Reifler 2006). These expected chances of success are weighted against projected (or existing) costs. Therefore, I expect that the success of each policy in its respected time frame will be critical for its probability of being selected. That is, actors with a short time horizon favor, and are more likely to select, the most successful short-term policy (similarly for those with long time horizons).

However, since the selection of an alternative is contingent upon its net benefit, actors are sensitive to the trade-off in temporal implications of their choice. Thus, actors also consider implications in the *reciprocal time frame* and prefer policy options with better outcomes over time. Hence, the ideal option for short-term oriented actors is a policy with successful immediate results, but also positive long-term (reciprocal) outcomes. The same expectation applies to those displaying long time horizons.⁹

In reality, most policies have contrasting temporal implications. Under these conditions, actors are willing to compromise and select an option that does not offer the highest chances of success, as long as it provides positive outcomes in the reciprocal time frame. Thus, actors with short time horizons will select an option that is not the most successful in the short-term, if it also offers positive long-term outcomes. The logic comes back to selecting the alternative with the highest net benefits - positive outcomes in the reciprocal time frame outweigh lower chances of success in the actor's main time frame. This aspect of the decision-making process is evident in conflict situations. For instance, Oakes (2012, 13-14) suggests that the selected policy to

⁹ This in-depth assessment is more likely for options that 'survived' the screening phase, the ones in the choice-set. In this phase, decision-makers engage in a more expanded deliberation of the remaining alternatives and contrast their success and costs from a temporal standpoint.

address domestic unrest may not necessarily be the best, but the one offering the highest relative benefits with respect to existing constraints. This leads to the main proposition regarding the selection phase and the effect of temporal trade-offs:

H₃: Actors are more likely to select a policy with positive reciprocal outcomes and lower chances of success, compared to an option with the highest chances of success in the relevant time-frame but negative reciprocal outcomes.

Is it a two-phase process?

In this study, I introduce the pre-choice screening phase, and argue that it is a crucial aspect of policy selection. In other words, the preferred policy is dependent on the composition of the choice-set. One of the observable implications of this argument is that variations in the size and contents of the restricted set drive different policy choices.

The effect of choice-set composition on the preferred alternative is studied extensively in decision science. Scholars explain this behavior with the concept of *Contextual preference reversal* - a situation when a preference for one option over another is reversed by the availability of further options (Howes et al. 2016).¹⁰ For example, when presenting individuals with a binary selection (e.g one of two options), the preferred alternative may be completely different compared to a situation when individuals face the same two options but the set consists of additional alternatives. In other words, when we modify the choice-set composition by adding alternatives, the distribution of preferences also changes. This aspect of the decision challenges classic models of rational choice since it demonstrate that individuals do not assess options independently but relative to the other options in the choice-set (Simonson and Tversky 1992; Summerfield and Tsetsos 2012).

Most studies on this topic emphasize consumers' choices in multi-attribute decision problems (Ratneshwar, Shocker and Stewart 1987; Tsetsos, Usher and Chater 2010). In politics, O'Curry and Pitts (1995) find evidence for contextual preference reversal in the evaluation of complex choices like supporting political candidates.

I build on these findings and assess the effects of the choice-set on individuals' preferences

¹⁰ Studies in economics explore a slightly different version of this concept (Tversky, Slovic and Kahneman 1990).

in another high leverage, complex situation - a security conflict. This analysis is important and complements the theoretical framework. First, it strengthens the role played by the choice-set within the decision process and why we must account for the ‘short-list’ of options in conflict situations. Second, it completes the analysis of the decision-making process and shows how time horizons have an *indirect effect* on the selected policy. Therefore, I expect that introducing changes to the composition of the choice-set will generate a contextual preference reversal and change decision-makers’ distribution of preferences for the alternatives within the reduced set.

H₄: Introducing changes into the choice set, by adding more options, is likely to trigger preference reversal for decision-makers.

Research Design

I test these propositions with a two-phase experiment that mirrors the theoretical framework. First, I detail the instrument and indicators used in the experiment.

I utilize Amazon Turk services to recruit a national sample of 1100 participants during June 2019. Despite various limitations, the use of MTurk is prevalent in political science research and past work demonstrates that participants in these surveys provide relatively similar results to national representative samples (Coppock 2019; Huff and Tingley 2015).¹¹

The Context

One of the primary challenges of estimating the direct effects of latent factors as time horizons is to introduce appropriate measures in the survey instrument. The first tool I implement is to situate decision-makers in a relevant context. Since I study the role of time horizons in conflict, I introduce an explicit conflict scenario that respondents can recognize - a large American military base in Afghanistan under severe attacks from enemy forces.

The context of an American military intervention in foreign disputes is prevalent in experimental studies of conflict choices (Herrmann, Tetlock and Visser 1999). I employ a more explicit scenario of a long campaign of insurgents targeting a major American base. The logic behind this design choice is to increase the likelihood that respondents understand the severity

¹¹ In Appendix B.3, I discuss the sample and issues of external validity.

of the context when facing both decision tasks. With more studies addressing issues of respondents' attention and seriousness (Bayram 2018), my design amplifies the context in order to improve the odds of serious responses by participants.

Dependent Variables: Policy screening and selection

The empirical analysis tests the effects of time horizons within a two-phase decision process. The design accounts for both phases with separate measures.

Phase 1: Pre-choice screening. After reading the scenario, respondents face an initial list of seven policies. These options are presented with their projected chances of success (55%-85% in five percent intervals) in the relevant time frame. The first task involves choosing whether to accept or reject these options for further evaluation. I use a dichotomous variable coded 1 for accepting an option into the choice-set, and 0 for rejecting it (see figure 1 for a partial screenshot of the screening task page, full instrument is detailed in Appendix A).

— Figure 1 Here —

Phase 2: Policy selection. After screening the initial policies, each respondent faces her own 'unique' choice-set (only the options she chose to accept for further evaluation). To measure the preferred policy in this 'short list', I employ two indicators: (1) respondents select their favored option of the surviving alternatives; (2) respondents rate each policy in the restricted set on a 1-7 scale (see figure 2).

— Figure 2 Here —

The final analysis (testing H_4) includes an embedded experiment within the design. This section begins with a re-iteration of the scenario (to ensure respondents are still aware of the context). Then, I introduce two combinations of choice-sets (figure 3 illustrates one combination: sets A and B). In set A (and C), I ask respondents to select a policy out of two options. Then, I ask for their preferred policy from set B (and D): a three-option choice-set in which the first two options are the same as set A (or C), and an additional option is added.¹² I use

¹² The components of all policies are similar to previous phases: chances of success in the relevant time frame (depend on the time horizon condition), outcomes in the reciprocal time frame and the extent of casualties.

two indicators for this decision task: A dichotomous variable measures the preferred policy in the binary choice-sets (two alternatives), for the three-option choice-sets, I use a variable with values 1-3.

— Figure 3 Here —

Independent Variables: Experimental Treatments

The experiment is based on a 2x2x2 factorial design¹³. The main explanatory factor in the analysis is decision-makers' time horizons. Due to the complexity of measuring this concept, I employ two treatments.

1. **Time horizon (main):** I introduce variations in time horizons by describing a time related objective for the conflict. The objective is to address the situation and reduce tensions since a senior administration official is scheduled to visit the base. In the short-term condition, the visit is scheduled at the end of the month. For the long-term condition, the visit is planned in the following year (about eight months away). To further emphasize the temporal dimension, I describe the projected probabilities of success for each option in the related time frame (for short time horizon, chances are for short-term, and vice versa for long-term, see figure 1).
2. **Outcomes in the reciprocal time frame:** Since time horizons describe an individual's view in both the short- and long-term, an additional treatment describes the projected outcomes for each policy option in the *reciprocal* (complementary) time frame. These outcomes are described as either positive or negative (I randomly assign outcomes to each of the seven policy options, and reverse their values in the second condition). Thus, the reciprocal treatment for the short-term condition describes outcomes in the long-term (and vice versa for long-term condition).¹⁴

¹³ The factorial design (2x2x2) generates a total of 8 experimental cells. I add two baseline (control) conditions in which the only treatment is the main short/long time horizon.

¹⁴ In figure 2, the participant is assigned into the short time horizon condition. Thus, the first column described chances of success in the short-term and the second column presents the reciprocal (long-term) outcomes. For the long term condition, the description of items is reversed.

Costs (human casualties) - While my primary concern is to estimate the effects of time horizons on respondents' choices, there are other factors that drive policy preferences. In the context of conflict, costs (especially human costs) are a central aspect of policy support (Gartner 2008). Therefore, I introduce an expected (human) costs treatment with high and low conditions. In order to not over-complicate the design and analyses, in each pertinent condition, all policies have the same level of costs.

In addition to these treatments, I collect information on participants' age, gender, education, foreign policy knowledge and partisanship. For most measures, I have no preregistered expectations of their effects on the choice. However, I do expect age to correlate with time horizons such that older respondents have shorter time horizons (Horowitz, McDermott and Stam 2005; Lechler and Sunde 2019).

Results

Time Horizons - a screening mechanism

I begin the analysis with the pre-choice screening phase. Since I assess potential changes in the size of the choice-set, it is useful to identify differences in size based on the experimental conditions.

I employ two ANOVA models.¹⁵ In model 1, the time horizon treatment is significant ($F = 2.82, p < 0.1$). The casualties treatment is also significant ($F = 21.07, p < 0.01$) and the reciprocal outcomes treatment is not significant. For a clearer discussion of the differences in size, I calculate the contrasts for the mean choice-set size based on the experimental conditions. For the main time horizon treatment, the contrast indicates a small difference in size on the verge of statistical significance ($m = 3.21$ and $m = 3.36, p = 0.11$). These means suggest that respondents in the short time horizon condition formed a smaller choice-set. The casualties contrasts indicate significant differences between the control and treatment conditions. Thus, with no information on costs, the mean set size is larger ($m = 3.98, p < .05$) compared to either low costs ($m = 3.10, p < .05$) or high costs ($m = 3.11, p < .05$) conditions. The contrast

¹⁵ A complementary analysis using OLS regression models is in Appendix C.1

comparing low and high casualties is not significant suggesting that whether the casualty figures are high or low does not impact the set size. The contrasts of the reciprocal outcomes treatment are similar to the casualties. That is, the average choice-set is smaller for respondents who view this information compared to the control condition (no information on reciprocal outcomes).

Model 2 replicates the analysis and includes all individual covariates. I find similar effects for the experimental treatments. Two additional findings are relevant for this discussion. First, *age* is statistically significant ($F = 1.26, p < 0.1$). I compute the means for different age groups and compare the size of their choice-set. The oldest respondents (older than 55, 90th percentile) accept less items into their restricted set. Younger individuals (less than 30 years old, the 25th percentile) evaluate a choice-set approximately 15% larger ($m = 3.39$) than the oldest respondents ($m = 2.89$). Previous studies argue that older actors have short time horizons (Horowitz, McDermott and Stam 2005; Lechler and Sunde 2019). This argument fits my results since older respondents (who have shorter time horizons) rejected more options and formed smaller choice-sets.

Second, both the foreign policy knowledge and education level indicators are statistically significant. Comparing high versus low levels of education and foreign policy knowledge demonstrate that the average choice-set is larger for the former group. These differences support the argument that possessing more knowledge increases the amount of options under consideration. In the bargaining literature, individuals who are long-term oriented opt to prolong the process, obtain more information and consider more options in an attempt to secure what they perceive as the best bargain (Fearon 1998). My results fit this logic as I find that more informed individuals weigh more alternatives.

The results thus far provide preliminary evidence for the role of time horizons as a screening mechanism and how it affects the choice-set (H_1). The lack of robust statistical support can be attributed to the design that captures the time horizon concept with a main indicator (the time horizon treatment) and a complementary one ('reciprocal' outcomes that tap into the trade-off in temporal implications). To conduct a clearer test of time horizons as a screening mechanism, I use a more restricted test in which I compare the mean size of the choice-set only for the baseline conditions. Such an analysis allows a direct comparison of the effects of time horizons

since the only difference between both conditions is whether the available policies are projected to succeed in the short- or long-term (the values for chances of success are similar for both conditions).

I run a univariate regression model to estimate how the time horizons treatment affects the choice-set size. The coefficient is positive and statistically significant ($\beta = 0.342, p < 0.1$), and the mean size of the choice-set for respondents with short time horizons is smaller ($m = 3.98$ vs. $m = 4.32, p < .05$). Figure 4 displays two density plots of the mean choice-set size and the time horizons conditions based on the full and reduced samples. The probability distributions in both plots are derived from 2,500 bootstraps to provide estimates of uncertainty. Panel A displays the mean choice-set size of both conditions, short and long time horizons, for the full sample. Panel B displays the means for the reduced sample. The difference in means is larger and statistically significant.

— Figure 4 Here —

A substantive interpretation of this analysis is that long-term orientated actors are willing to consider more policy options that have, by design, lower chances of success compared to those with short time horizons. In other words, the threshold for accepting policy options into a choice-set is higher for individuals who are short-term oriented. This finding is important since it is the 'cleanest' possible test for the effect of time horizons - it directly evaluates the different temporal implications and does not contain potential confounders such as casualties. In addition, this finding supports H_{2a} - actors with short time horizons are less likely to accept alternatives that have lower chances of success, i.e. those actors reject options that have lower probability of providing immediate outcomes.

In addition to the size of the choice-set, I posit that actors' time horizons affect its composition, i.e. some options are more likely than others to enter the set, contingent upon the decision-maker's time horizons. To test this proposition, I utilize probit regression models and estimate the likelihood of accepting certain policy options into the choice-set. I run two probit interaction models which account for the conditional relations between both elements of the time horizon

concept (the ‘horizon’ and ‘reciprocal’ treatments).¹⁶ For a clearer presentation of these effects, I derive marginal effects plots in Figure 5 below. In both plots, the x-axis represents the reciprocal outcomes condition, and both time horizon conditions are represented with the colored markers.

— Figure 5 Here —

The left-hand plot displays the probabilities for accepting policy 1. For a policy with high chances of success, when reciprocal outcomes are positive, there is no difference between both time horizons. In other words, the likelihood of accepting this policy into the choice-set is high regardless of the temporal dimension since there is no downside for such a choice.

When reciprocal outcomes are negative, a trade-off emerges and the effect of the temporal implications becomes clearer. Under such conditions, a short-term policy 1, with negative long-term outcomes, is less likely to be accepted ($m = 39.3\%$, the blue marker) compared to more than 60% likelihood of accepting a long-term policy with negative short-term outcomes (the red marker). This result is significant since it reflects a preference for long-term results at the expense of negative immediate outcomes, supporting H_{2b} . In addition, the casualties factor is insignificant, suggesting that when actors engage in pre-choice screening, they emphasize the temporal implications and are less sensitive to the human costs involved in each option.

The right-hand plot displays the likelihood of screening policy 2. The interaction between both conditions is not significant. Yet, once again the trade-off is evident when we compare between ‘reciprocal’ outcomes. A short-term policy 2 with negative future outcomes is 40.2% likely to enter the set; a similar long-term policy is about equal-odds ($m = 49.7\%$). This result, while weaker, is on par with policy 1 above showing that long-term oriented actors set a lower bar of accepting alternatives for additional evaluation.

The findings above offer support for the role of time horizons as a screening mechanism. Using multiple tests, I demonstrate that the temporal trade-offs in policy implications affect the type of alternatives that are accepted into the choice-set and consequentially, its size.

Policy selection and temporal trade-offs

¹⁶ For this analysis, I use a reduced sub-sample (no baseline conditions) since I cannot analyze the interaction terms for the full sample due to empty cells in the baseline conditions. Full results in Appendix C.2

In the decision-making theory I present, the screening phase (i.e. how the choice-set is constructed) carries a substantial weight in the entire process. However, in most conflict situations, we are more likely to focus on the (observed) selected policy. The experimental design accounts for this phase - after screening the initial options, respondents are asked to select their preferred policy of the ‘surviving options’ (the restricted choice-set). The central measure for this phase is an indicator for the selected policy out of the (k) remaining in the choice-set.

I estimate the likelihood of selecting the various policies using a multinomial regression model with all three experimental treatments as independent variables. I also account for individual covariates. Lastly, I add a variable for the choice-set size to control for the its potential effect on the policy selection.¹⁷ The results are in Table 1, with policy 1 as the reference category. The time horizons factor is negative and significant for policies 2-4, suggesting that for respondents with a long time horizon, policy 1 is the most likely option to be selected. Thus, long-term oriented actors prefer the policy with the highest possible chances to succeed.

— Table 1 Here —

The ‘Reciprocal outcomes’ factor complements the time horizons aspect. It is positive and statistically significant. This result indicates that when the reciprocal outcomes for policy 1 are negative, respondents prefer policy 2 (which has positive reciprocal outcomes), even though it has lower chances of success¹⁸. A similar effect is evident for policies 3 and 4 - respondents are more likely to select the (relatively) less successful policies when they offer positive outcomes over time. Therefore, decision-makers are sensitive to the temporal trade-off in policy implications, and are willing to select options that are not the most successful, as long as they offer positive outcomes over time. These findings support the main proposition regarding the selection phase (H_3).

The analysis above provides evidence for the effect of the different temporal implications on the (actual) selection of policy. I demonstrate that actors do not necessarily choose the option with the best chances of success (Oakes 2012). Facing a trade-off due to negative outcomes in

¹⁷ While this variable fits my theoretical argument, it introduces the problem of post-estimation bias (Montgomery, Nyhan and Torres 2018). I run additional analysis and drop this variable from the model, the results remain consistent, see Appendix D

¹⁸ Under such conditions, policy 2 has a 75.6% probability of being selected in the short-term condition, and 69.8% in the long-term condition.

the reciprocal time frame, actors gravitate toward an alternative that provides positive results across time, even if such a choice requires them to accept lower probabilities of success.

Do choice set size and composition influence policy selection?

To complement the selection phase analysis, I explore the role of the choice-set within the decision-making process. The primary objective of this section is to demonstrate that variations in the size and composition of the choice-set influence the preferred policy (i.e. trigger contextual preference reversal). This is an important step in the overall assessment of the process as it addresses the question of why the screening phase (and the choice-set itself) are important for the eventual selection of policy.

First, I estimate the effect of variations in the choice-set size on the selection phase. I add a binary variable *PolicyOne* coded 1 for respondents who selected policy 1 (85% chances of success) and 0 for any other alternative selected from the reduced choice-set. Then, I regress this variable (*PolicyOne*) on the choice-set size variable, the experimental treatments and the individual covariates.

Figure 6 illustrates how changes in the size of the choice-set affect the predicted probability of selecting policy 1. The downward slope indicates that as the size of the choice-set increases, the likelihood of selecting the most successful policy decreases. Since policy 1 has the highest chances of success, it makes sense that most respondents prefer it. Indeed, across the entire sample, almost 60% of respondents favor this option. However, the analysis suggests that changes in the ‘menu of options’ are important - the probability of selecting the most successful policy drops by more than 4% when the choice-set size doubles from two to four alternatives.

— Figure 6 Here —

These findings provide initial evidence for the role of the choice-set within the decision process. Yet, my research design limits the extent of experimental control over potential changes in the choice-set size and composition. Therefore, I conduct a more thorough analysis using data collected in the embedded experiment section: after respondents complete the previously mentioned screening and selection tasks, I introduce two combinations of new choice-sets and ask respondents for their preferred policy.

Set A consists of two options. The first has high chances of success (80%) and negative reciprocal outcomes; the second has lower chances of success (70%) and positive reciprocal outcomes. Expected casualties for both options are low (10-15). The adjacent set B consists of three policy options. The first two are similar to set A; the third option includes success chances that are between the previous options (75%), positive reciprocal outcomes and high number of casualties (70-90).¹⁹ I compare the preferred policy between these two choice-sets with the objective of assessing if and how the introduction of a new option (that involves some better and some worse aspects than the existing ones) changes the distribution of preferences.

A similar type of analysis is employed for sets C and D. The first option describes high chances of success (80%), but this time, reciprocal outcomes are positive. Option 2 has lower chances of success (70%) and negative reciprocal outcomes. The number of casualties for both policies is high (70-90). I compare the preferred policy to set D which, again includes two options similar to set C. The third option in this set has the middle range chances of success (75%) and negative reciprocal outcomes, but the expected number of casualties is low (10-15).

I run repeated-measures ANOVA models to evaluate how the introduction of a new alternative changes the proportion of respondents selecting policy 1 (the policy with the highest chances of success). The logic of this analysis is to test whether changes to the choice-set influence the extent of support for the most successful policy option. The use of a repeated-measures model accounts for potential correlations between policies within the choice-sets. I run two models, and the results are significant for comparing sets A and B ($F = 51.9, p < 0.05$), as well as sets C and D ($F = 783.4, p < 0.05$).

— Figure 7 Here —

Figure 7 illustrates these findings by presenting the proportion of support for policy 1. Comparing sets A and B, the mean proportion of respondents choosing the most successful policy decreases by approximately 8%. The change is even more substantial when comparing sets C and D, a 46.8% decrease. These results provide evidence supporting H_4 - altering the composition of the choice-sets triggers contextual preference reversal, and has a crucial effect on the final selection.

¹⁹ See figure 3.

Discussion & Conclusions

A thorough deliberation of multiple policy options is the backbone of a rational decision-making process facing security conflicts. While political leaders proclaim that "all options are on the table",²⁰ in most cases, only a smaller sub-set of preferred alternatives are given serious evaluation prior to selecting a conflict policy. In this study, I unpack the decision process and address this early phase, the screening of alternatives, demonstrating that time horizons serve a crucial role in shaping the formation of the choice-set of preferred policies. Then, I show that the selected policy is consequential to the initial screening phase (and choice-set formation). The main argument is that decision-makers' time horizons serve as a screening mechanism, and options that are incompatible with individuals' temporal views are rejected, and thus unlikely to be evaluated and selected.

Using a multi-phase experimental design, I provide evidence that time horizons serve as a screening mechanism by shaping the size and composition of the 'short-lists' of policies. I find that variations in time horizons generate different choice-sets. First, actors with long time horizons form larger choice-sets and are likely to entertain more policy options, compared to short-term oriented actors. In other words, a long-term orientation leads decision-makers to set a lower threshold when choosing which alternatives they evaluate. Second, different temporal views also influence the composition of the choice-sets. As expected, I find that actors with short time horizons are less likely to accept into their choice-set options that do not offer immediate benefits. On the other hand, long-term oriented actors are willing to entertain policies that are less successful in the short-term as long as future outcomes are positive.

While the effects of time horizons are most prevalent in the pre-choice screening phase, most studies of conflict behavior focus on the policy/strategy adopted by political leaders. I posit that decision-makers select the alternative that offers the highest net benefits from the ones which 'survive' the screening phase (i.e, are in the reduced choice-set). The experimental design assess this net benefits calculation by accounting for both elements of time horizons (short- and long-term implications). The analysis of the selection phase shows that actors are sensitive to the temporal trade-off and do not always prefer the best possible option. Thus, a

²⁰ For example, [Trump \(2019\)](#) or [Netanyahu \(2011\)](#)

policy that has high chances of success and negative outcomes in the reciprocal time frame may be less appealing than an option with positive reciprocal outcomes but lower chances of success. This finding fits with studies arguing that the selected policy may not necessarily be the best one, whether under the prism of a substitution framework (Oakes 2012) or strategic interactions between rational actors (Edelstein 2017; Haynes 2019).

The last set of results address an important issue that ties together the screening and selection phases, and explains their role within the overall decision process. I argue that time horizons are more powerful in shaping the choice-set, and that the actual policy selection depends on the composition of this ‘short list’. To assess this argument, I use data from an embedded experiment and demonstrate that changing the composition of the choice-set triggers contextual preference reversal (Howes et al. 2016). That is, the extent of support for a certain alternative changes when decision-makers face a binary versus a three-option choice-set. This result suggests that the pre-choice screening phase is a substantial part of the decision-making process and has a crucial effect on the eventual policy in conflict situations.

This study provide additional insight to our understanding of conflict behavior. First, I place the time horizon concept as a primary explanatory variable in conflict. Most studies explore how time horizons affect the choice of a strategy as cooperation (Axelrod 1984; Keohane 1984) or competition (Edelstein 2017; Fearon 1998; Hundley 2020). The findings of this study highlight the preceding phase and explain how these options become viable to be evaluated by decision-makers. In other words, if and when strategies of competition or cooperation are debated is contingent upon actors’ time horizons. Second, by focusing on the earlier phase of choice-set formation and rejection of unacceptable alternatives, this study helps us understand which policy options are more likely to be (seriously) evaluated and which ones are never really ‘on the table’.²¹

This study offers one of the first attempts to consolidate insights from psychology and political science in order to explore how time horizons influence the decision-making process in conflict. The evidence show that time horizons play a significant role in this process

²¹ Nevertheless, I do not claim that ‘more is always better’ as decision-makers are prone to cognitive biases even when assessing multiple options. The point is to show that time horizons influence how some options are removed before serious consideration.

and in essence determine which policy alternative are more likely to be ‘on the table’. Yet, more questions need to be explored. First, in my experiment, respondents choose among policy options that are relatively generic and, for the most part, vary only in their temporal implications. While recent work suggest no substantial differences between an abstract and over-detailed experimental design ([Brutger et al. 2020](#)), additional studies need to assess the choice-set framework using actual policy options such as negotiations, military intervention, sanctions, etc. A related question is how individuals define foreign policies from a temporal standpoint. That is, what factors lead certain policy options to be perceived as either a short- or long-term alternatives?²² Third, one challenge for my analysis is that I am able to show the pre-choice screening phase since the research design forces respondents to form a choice-set prior to making an actual selection. In addition, the design is limited in its ability to account for rejecting options based on a non-rationalist view (i.e., ignoring options instead of ‘manually’ rejecting them). This is a fair criticism, yet I contend that few decision-making scholars repudiate the existence of a separate screening/editing phase ([Beach 1990](#); [Kahneman and Tversky 1979](#)). Thus, in order to empirically test this phase, we must compel individuals to engage in descriptive screening (see, [Mintz et al. \(1997\)](#); [Ordóñez, Benson III and Beach \(1999\)](#)). By not forcing such tasks when studying multi-phase processes, we fail to harness the advantages of experimental methods for a more nuanced analysis of the causal effects of elements, which have interesting theoretical implications, but are not clearly observable.

Most research on conflict decisions views time horizons as an implicit element. The results of this research demonstrate that the temporal dimension has an effect, and a substantial one, on the preferred policy. My findings suggest that actors’ choices in conflict are influenced by factors that are beyond the classic cost-benefit calculus. In other words, our models of conflict decision-making must account for latent factors that are difficult to measure yet their effect is critical for actual behavior.

²² In other work, I assess this question using a conjoint experiment. [Kertzer, Renshon and Yarhi-Milo \(2021\)](#) employ a similar approach to test the concept of resolve.

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Table 1: Policy Selection - Multinomial Logit Model

	<i>Policy Selected</i>		
	Policy 2	Policy 3	Policy 4
Time Horizon	-0.483** (0.202)	-0.882** (0.414)	-0.972* (0.562)
Reciprocal Outcomes	3.697*** (0.217)	2.73*** (0.400)	1.176** (0.542)
Casualties	-0.802*** (0.198)	-0.568 (0.377)	-0.104 (0.486)
Set Size	0.218*** (0.075)	0.609*** (0.142)	0.478*** (0.172)
Age	-0.024*** (0.008)	-0.091*** (0.026)	-0.013 (0.022)
Gender	0.206 (0.207)	-0.432 (0.433)	-0.381 (0.547)
Partisanship	-0.012 (0.051)	0.100 (0.105)	0.068 (0.135)
Education	0.204 (0.125)	0.120 (0.280)	-0.126 (0.328)
FP knowledge	0.194 (0.123)	0.398 (0.260)	0.045 (0.334)
Constant	-5.591*** (0.755)	-6.027*** (1.457)	-5.304*** (1.665)

Notes: N = 1,020; Pseudo R² = 0.342; Base category is select Policy 1

*p<0.1; **p<0.05; ***p<0.01; Standard errors in parenthesis